

Air Quality Event Summary

August 11, 2004

The final unhealthy air quality day of 2004 was experienced on August 11, where both ozone and fine particulate matter reached elevated levels. For ozone, this was not a day where very high concentrations were expected since the temperature struggled to reach the low 80s in many parts of the state, even though the sky was mostly clear. Light wind speeds made for a stable atmosphere and little vertical air mixing so levels of ozone were widespread moderate, with only Miller State Park just barely exceeding the 8-hour ozone standard. Since this is a high elevation site, the conditions point to a transport event, where ozone levels were highest just above sea level. A southwest wind is responsible for advecting pollutants from the urban areas to our south into the state. Specifically, an elevated ozone precursor plume coming from the New York City metropolitan area is suspected to have resulted in the highest ozone levels being at Pack Monadnock Mountain since a persistent flow was observed coming from that region for several hours during the day. The maximum 8-hour and 1-hour ozone levels are shown in the table below, along with the high daily particulate matter concentrations.

The light winds and persistent wind directions on both August 10 and 11 were also responsible for high levels of PM_{2.5} in southern New Hampshire, as can be seen on the following tables. The figures below show the distribution of ozone and particulate matter pollution on the 10th and 11th. Both figures show how widespread the event was. This is fairly common under light-wind stagnation conditions where pollution can build up over a large area.

Ozone

<i>monitor</i>	1-hr avg. max ppb	<i>monitor</i>	8-hr avg. max ppb
Manchester	79	Manchester	69
Keene	102	Keene	79
Odiorne	84	Odiorne	74
Claremont	106	Claremont	84
Nashua	93	Nashua	81
Concord	91	Concord	83
Portsmouth	78	Portsmouth	73
Miller	98	Miller	87
Laconia	84	Laconia	76
Mt Washington	93	Mt. Washington	77
Haverhill	89	Haverhill	72
Camp Dodge	82	Camp Dodge	68
Pittsburg	66	Pittsburg	43
<i>1-hour exceedance is > 124 ppb</i>		<i>8-hour exceedance is > 84 ppb</i>	

Particle Pollution (PM_{2.5})

max 1-hour average

<i>monitor</i>	max ug/3
Manchester	45
Portsmouth	36
Haverhill	
Miller	
Camp Dodge	43

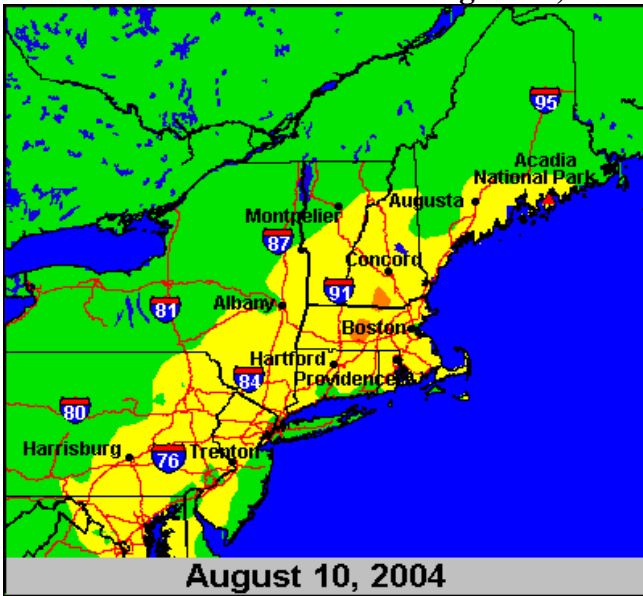
no 1-hour standard

max 24-hour average

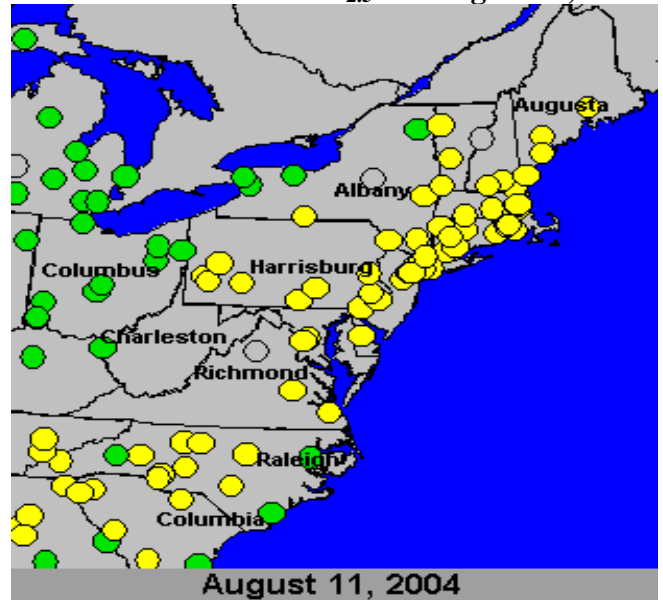
<i>monitor</i>	max ug/3
Manchester	32
Portsmouth	29
Haverhill	
Miller	
Camp Dodge	14

*24-hour exceedance
is > 65.5 ug/m3*

Maximum 8-Hour Ozone for August 11, 2004



Maximum 24-Hour PM_{2.5} for August 11, 2004



Afternoon Streamlines for August 11, 2004

